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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/602,184	06/22/2000	Juergen Kleinschmidt	LMPY-6410	8719

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EXAMINER

INZIRILLO, GIOACCHINO

ART UNIT PAPER NUMBER

2828

DATE MAILED: 09/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/602,184

Applicant(s)

KLEINSCHMIDT ET AL.

Examiner

Gioacchino Inzirillo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.


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Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6-8. 6) ☐ Other:

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DETAILED ACTION

Applicant is hereby informed that he mis-numbered the claims, beginning with claim 27, which was mis-numbered as the second iteration of claim 26. Each claim, after and including this claim, has been renumbered as that number plus 1. There are 57 claims pending in this application.

Specification

The abstract of the disclosure is objected to because it is more than 150 words.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 – 57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are confusing, vague and indefinite because they fail to recite sufficient structure to define a functioning invention. The claims fail to define any grating or laser to support the preamble of the claims of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, and 4, are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Firester US 4,009,933 (herein after known as Firester).

Regarding claim 1, Firester discloses a grating element with an optical coating in Fig. 1 and column lines 38 – 47. Firester does not show a line narrowing or line selection package.

However, this is intended use of the invention, and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Therefore, this functional language has no patentable weight. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding claims 2 and 4, these claims also have intended use, and have no patentable weight.

They are the “for reducing...1pm” and “for dispersing...element”. The preamble, “An excimer...package”, is not being considered since the body of the claim and the preamble are not linked, and the preamble does not add any critical information or understanding necessary to interpret the claim. Firester teaches a grating element with a HR coating.

Regarding claim 3, claim 3 has intended use limitation “for use...laser” which is being treated in the same manner as above. Apart from that, the claim calls for a grating element with an AR

coating. Column 1 lines 60 – 62 talk about a reflectivity of 90%. Therefore, given a broad interpretation, one could consider the coating to have anti-reflective properties of 10%.

Claim 8 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Chen et al. US 5,652,681 (herein after known as Chen). Chen teaches a grism, see Fig. 3 reference numeral 50 and column 4 lines 10 – 30. As for the phrases “for use with...laser” and “for dispersing the beam” it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Therefore, this functional language has no patentable weight. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was

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made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5 – 7, 9 – 17, 41 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleinschmidt et al. US 6,160,832 (herein after known as Kleinschmidt) in view of Firester. Kleinschmidt also teaches a line-narrowing portion in Fig. 7 reference numeral 102. He also teaches an etalon for monitoring the wavelength in Fig. 1 reference numeral 7. However, Kleinschmidt fails to teach a grating with a dielectric coating. Firester teaches this in his patent, Fig. 2. Firester includes the dielectric coating for protection. Either HR or AR would be obvious choices to one of ordinary skill, since they are the most common types of coating. Optimization of the device by placing the coating on the grating or the opposite side would require only routine experimentation. It could also provide the benefit reflecting more of a particular wavelength, or more additional wavelengths than just the grating could. As for the positioning of the dielectric coating on a side of the grism closest to the discharge chamber, it would require only routine skill in the art to determine the optimum placement of the coating. Regarding the DUV and/or VUV transparency, one of ordinary skill would find this obvious because the device would not work otherwise. Therefore, it would have been obvious to one of ordinary skill in the art to modify the grism of Kleinschmidt to include a dielectric coating as taught by Firester. Furthermore, the phrases “ for reducing the bandwidth...”, “for dispersing the beam and for retroreflecting...” and “for use with...” are functional language and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed

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structural limitations. Therefore, this functional language has no patentable weight. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kleinschmidt.

Kleinschmidt discloses in column 1 lines 33 – 35 that it was already known in the art at the time his invention was made that an excimer laser could have a bandwidth less than 1 pm.

Kleinschmidt teaches a grism; see Fig. 7 reference numeral 102 and column 10 lines 42 – 50.

Furthermore, the phrase “for reducing the bandwidth...” is functional language and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Therefore, this functional language has no patentable weight. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Claim 19 – 37, 47 – 54, 56 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleinschmidt in view of Challener as applied to claims 2 and 46 above, and further in view of Laudenslanger et al. US 5,383,199 (herein after known as Laudenslanger). Kleinschmidt in view of Challener teaches the invention as outlined in the rejection above, but fails to teach a coated grism as an output coupler. However, Laudenslanger teaches a coated prism as an output coupler in Fig. 1, reference numeral 31. The coated grism of Kleinschmidt in view of Challener and the coated prism of Laudenslanger both have a prism portion that would allow the grism to be utilized in the same fashion as the coated prism would. Therefore, it would have been obvious to one of ordinary skill in the art to modify Kleinschmidt in view of Challener to use the grism as

an output coupler as taught by Laudenslager. The orientation of the faces to optimize the system would require only routine experimentation. Either HR or AR would be obvious choices to one of ordinary skill, since they are the most common types of coating. Optimization of the device by placing the coating on the grating or the opposite side would require only routine experimentation. Usage of a grism as a beam expander would have been obvious to one of ordinary skill since prisms are notoriously well known beam expanders, grisms inherently have the have the same capacity for beam expansion since grisms contain a prism.

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kleinschmidt in view of Challenger as applied to claims 19 – 37, 47 – 54, 56 and 57 above, and further in view of Scobey et al. US 6,115,401 (herein after known as Scobey). Kleinschmidt in view of Challenger teaches the invention as outlined in the rejection above, but fails to teach an aperture. However, Scobey teaches an aperture in column 8 lines 34 -36 of his patent for limiting the beam angles impinging on his filter. Therefore, it would have been obvious to one of ordinary skill in the art to modify Kleinschmidt in view of Challenger as taught by Scobey.

Claims 38, 39 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleinschmidt in view of Challenger as applied to claims 19 – 37, 47 – 54, 56 and 57 above, and further in view of Das et al. US 5,978,409 (herein after known as Das). Kleinschmidt in view of Challenger teaches the invention as outlined in the rejection above, but fails to teach a plurality of coated prisms. However, Das teaches this in Fig. 2. Therefore, it would have been obvious to one of ordinary skill in the art to modify Kleinschmidt in view of Challenger as taught by Das.

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Regarding the DUV and/or VUV transparency, one of ordinary skill would have found this obvious because the device would not work otherwise. Furthermore, the phrase “for reducing the bandwidth...” is functional language and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Therefore, this functional language has no patentable weight. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Claims 42 – 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleinschmidt as applied to claims 2, 3, 4 – 7, 9 – 17, 41 and 46 above, and further in view of Challenger US 5,925,878 (herein after known as Challenger). Kleinschmidt teaches the invention as outlined in the rejection above, but fails to teach a bulk dielectric substrate with a plurality of grooves and dielectric coating formed on the grooves. However, Challenger teaches this in Fig. 4 of his patent. Therefore, it would be obvious to one of ordinary skill in the art to substitute the grating element of Kleinschmidt for the one taught by Challenger.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gioacchino Inzirillo whose telephone number is 703-305-1967. The examiner can normally be reached on M-F 8:30AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this

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application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Gioacchino Inzirillo

Examiner

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G. Inzirillo
August 26, 2002

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